NORTH DAKOTA UNIVERSITY SYSTEM

Parking Management System

Post-Implementation Report

November 2005

Report Prepared by:
Rich Lehn
NDUS Project Oversight

TABLE OF CONTENTS

INTRODUCTION

The Post-Implementation Report contains an analysis from the Post-Implementation Survey sent to various project team members. This survey was sent to the individuals who were most heavily involved in or performed a major role in the project. Individuals included members of the Steering Committee, Core Team, Vendor, Data Center staff, and Developer staff. In an attempt to solicit the most survey returns, the survey was sent to the listserv for the Steering Committee and the Core Team. Six surveys were returned.

Survey questions were rated on a scale of 1 to 3 with 1 being low and 3 high. Results were calculated based on all responses that were not listed as N/A. The rating was derived from the responses (1, 2, or 3) to each question answered divided by the total number of respondents. Each section was then scored based on all the questions answered in the section with a 1, 2, or 3 divided by the total number of respondents. The rating gives an indication of satisfaction and defines areas where improvements are needed.

Attached as an appendix (Appendix A) is a sample copy of the survey that was distributed to key project team members. This survey is being used on all projects to determine the effectiveness of project management.

A. SYSTEM EFFECTIVENESS

The Parking Management System successfully meets the needs of the NDUS Parking Offices. Survey responses indicated a general satisfaction with the system. Comments expressed included; "Great! We love the new system, however, still learning." "Working through the process using a team approach was very good." "I was very satisfied with involvement and over all out come." In addition to the positive comments, there was a comment indicating a concern with "some minor issues with connecting."

Overall Survey Rating:

2.85

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

B. COST, SCOPE, SCHEDULE, AND QUALITY MANAGEMENT

Throughout this project, project management processes were used to manage the costs, scope, schedule, and quality. Change control forms were used for changes and a Changes, Risks, and Issues Log was regularly maintained to track such items.

Project Cost

The project cost as of June 30, 2005, was less than had been budgeted. The majority of expenses had been incurred by then and the project was in its wrap-up phase. Original budget for this project was $420,886.

	Original Budget	**4/28/05 Revised**	**6/30/2005 Actual**
Vendor Software & Implementation	$141,050.00	$129,821.00	$145,722.13
Hardware	$117,634.00	$36,000.00	$53,252.77
Software	$22,500.00	$22,500.00	$55,011.30
Personnel	$131,702.00	$93,362.00	$66,652.15
Other	$8,000.00	$5,000.00	$1,455.08
Project Funded Exp.	$420,886.00	$286,683.00	$322,093.43
Contingency		$134,203.00	$98,792.57
TOTAL	$420,886.00	$420,886.00	$420,886.00

After the budget was revised on 4/28/2005, the Parking Steering Committee approved moving forward with purchasing additional handheld units, software, computers and consulting services from the contingency. These items were for the additional campuses that came on board the T2 Systems, Inc. Parking Management System. These campuses went live on June 15, 2005. Out of the remaining contingency, at the conclusion of the project, $32,000 was to be held in reserve for the web interface which would be included in the upgrade to PowerPark Flex due out in approximately two years. The web interface would not be part of this project; however, funds would be earmarked from this project for the upgrade. Remaining funds would be returned to the ConnectND budget as the majority of the ConnectND budget, along with this project, was funded from Student Fees.

Project Scope

There were two change Requests that were approved by the Parking Steering Committee during the project.

ID	Description	Impacts
1	The original intent of the NDUS was to implement the new parking system for all institutions. The project was divided into two phases to accommodate resources and implementation complexities. This change request will add activities to the project plan and schedule to accomplish Phase Two.	The impacts on the budget, schedule, and quality are minimal. The project plan and schedule will be updated.
2	The original intent was to include a web interface; however, a new version of the software will be released within two years. The Parking Steering Committee decided that since there would be a delay with development due to the ConnectND project, it would be best to wait on the web interface and plan implementation of the web interface with the new PowerPark Flex product.	The impacts on the budget, schedule, and quality are minimal. The monies intended for this portion of the project will be retained for the future project.

Project Schedule

The comparison summary of the baseline schedule against the actual schedule is shown below.

WBS ID #	Task Name	Baseline Start	Actual Start	Baseline Finish	Actual Finish
	NDUS PARKING PROJECT – PHASE 1	6/1/2004	6/1/2004	4/5/2005	6/30/2005
1	Initiating and Planning	6/1/2004	6/1/2004	9/23/2004	10/5/2004
2	Define Business Process and Setup System	7/27/2004	7/27/2004	12/16/2004	1/31/2005
3	Interfaces	8/23/2004	8/23/2004	1/31/2005	5/26/2005
4	Data Conversion Analysis	8/23/2004	8/23/2004	12/20/2004	1/31/2005
5	Business Process Testing, Procedures, plan go-live	12/1/2004	11/29/2004	1/31/2005	3/11/2005
6	Training	9/20/2004	10/6/2004	3/4/2005	3/3/2005
7	Go-live	2/7/2005	1/3/2005	3/8/2005	3/4/2005
8	Transition & Post Implementation	2/15/2005	2/15/2005	4/8/2005	4/4/2005
9	Project Controlling Activities	6/1/2004	6/1/2005	6/6/2005	6/30/2005

WBS ID #	Task Name	Baseline Start	Actual Start	Baseline Finish	Actual Finish
	NDUS PARKING PROJECT PHASE 2	2/14/2005	2/11/2005	7/28/2005	6/30/2005
1	Phase 2 Planning	3/7/2005	3/7/2005	3/16/2005	3/16/2005
2	Remaining Interfaces – Develop and Test	2/14/2005	2/14/2005	2/14/2005	6/15/2005
3	Remaining Campuses - THD System Setup	2/11/2005	2/11/2005	5/23/2005	6/1/2005
4	Student Web Interface	3/8/2005	3/8/2005	6/30/2005	Delayed to upgrade – PowerPark Flex
5	Judicial Officer – System Setup for all campuses	3/9/2005	3/9/2005	6/17/2005	6/15/2005
6	Training – Remaining campuses	6/14/2005	6/14/2005	6/14/2005	6/14/2005
7	Go-Live	6/15/2005	6/15/2005	6/15/2005	6/15/2005

The project met both Phase 1 (March 4, 2005) and Phase 2 (June 15, 2005) "go-live" dates. The remaining wrap-up of the project will be completed as part of maintenance and the project is considered completed effective June 30, 2005.

Project Quality

Quality of the project was brought to fruition by the individuals that were involved in the project. A Quality Management Plan was devised and explained to the individuals involved.

One individual's comment regarding cost, scope, schedule and quality management was, "I feel we were committed to a cost effective project."

Overall Survey Rating:

3.00

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

C. RISK MANAGEMENT

Risks were managed through identification by the project team and tracked through use of a Risk Log. Risks that had been identified and during the course of the project became a reality were moved to an Issue Log where they were tracked, assigned to someone to resolve, and included the resolution or actions taken. Two items were identified as risks to be aware of with one becoming an issue. There were additional "issues" logged that were not identified risks; however, this is normal as the Issue Log allowed for closer tracking of those items.

The identified risk that had become an issue dealt with resource constraints due to the PeopleSoft project. Because the PeopleSoft project implementation was extended, development and other project staff were not available to develop interfaces between the Parking Management System and PeopleSoft in the timelines that had originally been planned. This caused a concern that the "go-live" might be impacted if not resolved. One member of the project team stated in their Post-Implementation survey, "Any and all risks were communicated."

Overall Survey Rating:

2.78

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

D. COMMUNICATIONS MANAGEMENT

Several methods of communications were used on this project. A "kick-off" meeting was held which laid out the process early in the project so that team members had an idea of what to expect. Listservs were established for the Core Team and the Steering Committee.

The Project Manager kept the teams informed and status reports were used to keep all stakeholders informed. One individual commented, "I feel information was always available to team members." "Reports were always clear and informative." One commented regarding effectiveness of project team meetings, "Very helpful to stay on task." Other comments included; "All stakeholders had the opportunity to be very involved if they chose to

be." "Project manager did a great job!" Project manager was "what kept us together."

Overall Survey Rating:

2.58

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

E. ACCEPTANCE MANAGEMENT

The use of a formal process for signing off on deliverables is a must for ensuring that a project deliverable was tested and met the needs of the project members.

The project manager on this project provided summaries prior to presenting deliverable documents to the Project Team. One team member stated when asked how well prepared they were to accept project deliverables, "Hard to keep on task with this project as well as normal tasks (normal duties of the office)."

Overall Survey Rating:

2.39

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

F. ORGANIZATIONAL CHANGE MANAGEMENT

Preparing an organization for the change a project will have on them is one of the harder aspects of project management.

While respondents rated this section, none of the respondents to the survey added comments to this section.

Overall Survey Rating:

2.61

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

G. ISSUES MANAGEMENT

Issues that were identified were tracked through the use of an Issues Log. This log is a critical project management tool to ensure that someone has been assigned to resolve the issue, report on progress of the issue, and maintain a vigilance that the issue has been acted upon to resolution.

During the lifetime of the project implementation, seven issues were logged with each having been resolved prior to "go-live."

One comment expressed on this section was, "All issues were addressed and dealt with quickly and effectively."

Overall Survey Rating:

2.48

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

H. PROJECT IMPLEMENTATION AND TRANSITION

The transition from implementation to operational phase of this project went fairly smooth. This could be attributed to the efforts of the Core Team members, the vendor personnel, and the Project Manager. Most individuals involved on this project worked diligently to make the project "go-live" a success.

While respondents rated this section, none of the respondents to the survey added comments to this section.

Overall Survey Rating:

2.60

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

I. PERFORMANCE OF PERFORMING ORGANIZATION

Performance of the performing organization was rated the lowest of all sections in the Post-Implementation survey. Part of this can be attributed to the project coinciding with the PeopleSoft implementation. The PeopleSoft project stretched resources (in this case mainly personnel) thinly.

While respondents rated this section, none of the respondents to the survey added comments to this section.

Overall Survey Rating:

2.17

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

J. PERFORMANCE OF PROJECT TEAM

The efforts put forth by some of the Project Team members, vendor personnel, and the Project Manager made this a successful project. When asked, "Overall, how effective was the performance of the Project Manager?" a comment stated, "Excellent."

Overall Survey Rating:

2.69

- Scale of 1 – 3, with 1 being low and 3 high
- Results are based on all responses that were not listed as N/A. Rating derived from points awarded divided by total number of respondents for this section of the survey.

K. KEY PROJECT METRICS

Cost

The original budget for this project, in new funds, was $420,886 and with "in-kind" staffing support the total was $493,739. The cost at completion was $354,094 (including the $32,000 reserved from contingency for the web interface) and with "in-kind" contributions the total was $443,216.

There were two change orders approved by the Steering Committee that appeared to have a direct impact on the budget. The first change had no budget impact as it broke the project into two phases to ease management of the project with the staffing resources available. The second change order also had a net zero affect on the budget as it removed the web interface development from the scope of the project; however, funds were retained from the project in contingency to be applied to the PowerPark Flex product.

The surplus in this project can be attributed to fewer individuals being involved as had originally been intended as Core Team members. The original budget included $131,703 for personnel directly billed to the project; however, the actual cost was $66,653.

The contingency remaining in this project will be used to fund additional hardware to support a third environment. It may also be used to fund a portion of the Facilities Management System interface budget shortfall since both of these systems are being funded by the same mechanism of student fees.

Schedule

The schedule remained on track as originally planned with completion of all institutions involved "live" by June 30, 2005.

Scope

The scope of the project had been changed as the Steering Committee approved holding off development of the web interface as part of this functionality would become available in the next version of the system due to be released in less than two years.

Quality

This project has met the anticipated benefits outlined in the original Business Case. T2 Systems, Inc., Parking Management System has been interfaced

with the PeopleSoft system, has improved efficiencies, and enabled new functionality. Scanning of "hang tags" on vehicles improperly parked has increased the efficiency of parking enforcement and the parking office personnel.

As staff members from the Parking Office become more familiar with their system, productivity will increase and the Parking Office will be able to provide better services to those seeking campus parking. Comments from staff have been positive in the system's capabilities.

L. LESSONS LEARNED

Three questions were asked of the team members which reflects on lessons learned. These questions are listed below and comments are included with each.

What were the most significant issues on this project?

Only one respondent replied with, "Significantly changed our daily tasks."

What were the lessons learned on this project (from things that didn't go well)?

"Learned not to convert old data."
"These projects always seem to take more time than we sometimes plan for."

What on this project worked well and was effective in the delivery of the system?

"Project manager was necessary to keep us on task."
"I can not say enough about how the team concept under the direction or leadership of a project manager worked. In my opinion, this single factor made the project a success."

APPENDIX A

Purpose
The purpose of the Post-Implementation Survey is to collect feedback from project team members (the Steering Committee, Core Team, and Technical Team) about the success of the implementation. Survey responses will be summarized into a Post-Implementation Report, which will be available at a later date.

Instructions
1. Answer each question by entering a rating and comments. Please be honest and sincere. Your feedback will create valuable information for future NDUS projects and your individual responses will be kept confidential.
2. If you do not understand the question or it is not applicable to your role, enter N/A for a rating and N/A under comments.
3. There is a "General Questions" section on page 8 that is appropriate for general issues and lessons learned. This area should help you share information not covered in a specific question.
4. Contact Rich Lehn with any questions at 777-3756 or richlehn@mail.und.nodak.edu
5. Return the survey by **(DATE OF RETURN)** via email to Rich Lehn at richlehn@mail.und.nodak.edu
6. THANK YOU for your participation!!

Date:
Name:
Institution:
Department:
Role on Project:

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
SYSTEM EFFECTIVENESS		
1. How well does the system meet the stated needs of the NDUS?		
2. How well does the system meet your needs?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
3. When initially implemented, how well did the system meet the stated needs of the NDUS?		
4. To what extent were the objectives and goals outlined in the Business Case and Project Charter met?		
5. What is your overall assessment of the outcome of this project?		
6. How well did the scope of the project match what was defined in the Project Proposal?		
7. How satisfied are you with your involvement in the development and/or review of the Project Scope during Project Initiation and Planning?		
COST, SCOPE, SCHEDULE, AND QUALITY MANAGEMENT		
8. Was the Change Control process properly invoked to manage changes to Cost, Scope, Schedule, or Quality?		
9. Were changes to Cost, Scope, Schedule, or Quality, effectively managed?		
10. Was the established change budget adequate?		
11. As project performance validated or challenged estimates, was the change control process used when appropriate and were challenges effectively managed?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
12. How effectively was the Quality Management Plan applied during Project Execution?		
13. How effective was the quality assurance process?		
14. How effective were project audits?		
15. How effective was the utilization of Best Practices from prior projects in the NDUS and Institutions?		
RISK MANAGEMENT		
16. How well were team members involved in the risk identification and mitigation planning process?		
17. To what extent was the evolution of risks communicated?		
18. How effectively was the Risk Management Log updated or reviewed?		
19. How comprehensive was the Risk Management Log? (i.e. did many events occur that were never identified?)		
COMMUNICATIONS MANAGEMENT		
20. How effective were the informational materials available to orient team members?		
21. How satisfied were you with the kick-off meetings you participated in?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
22. How effectively were the project team meetings conducted?		
23. How effectively and timely were Progress Reports provided by Team Members to the Project Manager?		
24. How effectively were stakeholders involved in the project?		
25. Was communication with stakeholders (president, vice presidents, other directors, end users) adequate?		
26. How well were your expectations met regarding the frequency and content of information conveyed to you by the Project Manager?		
27. How well was project status communicated throughout your involvement in the project?		
28. How well were project issues communicated throughout your involvement in the project?		
29. How well did the Project Manager respond to your questions or comments related to the project?		
30. How useful was the format and content of the Project Status Report to you?		
31. How useful and complete was the project repository?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
ACCEPTANCE MANAGEMENT		
32. How effective was the acceptance management process?		
33. How well prepared were you to accept project deliverables?		
34. How well defined was the acceptance criteria for project deliverables?		
35. Was sufficient time allocated to review project deliverables?		
36. How closely did deliverables match what was defined within Project Scope?		
37. How complete/effective were the materials you were provided in order to make a decision to proceed from one project lifecycle phase to the next?		
ORGANIZATIONAL CHANGE MANAGEMENT		
38. How effectively and timely was the organizational change impact identified and planned for?		
39. How pro-active was the Organizational Change Management Plan?		
40. Was sufficient advance training conducted/information provided to enable those affected by the changes to adjust to and accommodate them?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
41. Overall, how effective were the efforts to prepare you and your organization for the impact of the new system?		
42. How effective were the techniques used to prepare you and your organization for the impact of the changes brought about by the new system?		
ISSUES MANAGEMENT		
43. How effectively were issues managed on the project?		
44. How effectively were issues resolved before escalation was necessary?		
45. If issue escalation was required, how effectively were issues resolved?		
46. How effectively were issues able to be resolved without impacting the Project Schedule or Budget?		
PROJECT IMPLEMENTATION & TRANSITION		
47. How effective was the documentation that you received with the system?		
48. How effective was the training you received in preparation for the use of the system?		
49. How useful was the content of the training you received in preparation for the use of the system?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
50. How timely was the training you received in preparation for the use of the system?		
51. How effective was the support you received during implementation of the system?		
PERFORMANCE OF THE PERFORMING ORGANIZATION (NDUS AND THE INSTITUTIONS)		
52. How effectively and consistently was sponsorship for the project conveyed?		
53. How smooth was the transition of support from the Project Team to the NDUS and Institutions?		
54. Did the Project Team adequately plan for and prepare the Institutions for their ongoing responsibilities for the product or service of the project?		
PERFORMANCE OF THE PROJECT TEAM		
55. Overall, how effective was the performance of the Project Manager?		
56. How well did the Project Team understand the expectations of their specific roles and responsibilities?		
57. How well were your expectations met regarding the extent of your involvement in the project (effort time commitments etc.)?		
58. How effective was each Project Team member in fulfilling his/her role?		

Questions	Rating (1 – 3) 1 is low and 3 is high	Comments (What worked well? What could have been done better? What recommendations do you have for future projects?)
59. How effective was team member training?		
GENERAL QUESTIONS		
60. What were the most significant issues on this project?		
61. What were the lessons learned on this project (from things that didn't go well)?		
62. What on the project worked well and was effective in the delivery of the system?		